

CLAIMS

That which is claimed is:

1. An optical apparatus, comprising:
 - (a) a tuning element positioned in a light beam; and
 - (b) a drive element magnetically coupled to said tuning element.
2. The apparatus of claim 1, further comprising a hermetically sealed enclosure, said tuning element positioned within said hermetically sealed enclosure, said drive element located outside said hermetically sealed enclosure.
3. The apparatus of claim 2, further comprising:
 - (a) a first magnetic element coupled to said tuning element and located within said hermetically sealed enclosure; and
 - (b) a second magnetic element associated with said drive element and located outside said hermetically sealed enclosure, said first magnetic element magnetically coupled to said second magnetic element through said hermetically sealed enclosure.
4. The apparatus of claim 1, further comprising a gain medium, said gain medium emitting said light beam.
5. The apparatus of claim 4, further comprising a reflector positioned in said light beam after said tuning element.
6. The apparatus of claim 5, further comprising a grid generator associated with said light beam and configured to define a channel grid.
7. The apparatus of claim 5, further comprising a hermetically sealed enclosure, said gain medium, said tuning element, and said reflector positioned within said hermetically sealed enclosure, said drive element located outside said hermetically sealed enclosure.

8. A laser apparatus, comprising:
 - (a) a gain medium;
 - (b) a tuning element positioned in a light beam emitted by said gain medium;
 - (c) a first magnetic element operatively coupled to said tuning element; and
 - (d) a second magnetic element magnetically coupled to said first magnetic element and configured to actuate said first magnetic element and said tuning element according to actuation of said second magnetic element.
9. The apparatus of claim 8, further comprising a drive element coupled to said second magnetic element and configured to actuate said second magnetic element.
10. The apparatus of claim 8, further comprising a reflector positioned in said light beam after said tuning element.
11. The apparatus of claim 8, further comprising a grid generator positioned in said light beam.
12. The apparatus of claim 8, further comprising a hermetically sealed enclosure, said gain medium, said tuning element and said first magnetic element positioned within said hermetically sealed enclosure, said second magnetic element located outside said hermitically sealed enclosure.
13. The apparatus of claim 12, further comprising an activated carbon drain positioned within said hermetically sealed enclosure.
14. The apparatus of claim 12, further comprising a moisture trap positioned within said hermetically sealed enclosure.
15. The apparatus of claim 12, wherein hermetically sealed enclosure contains an inert atmosphere.

16. A laser apparatus, comprising
 - (a) a gain medium emitting a light beam;
 - (b) a tuning element positioned in said light beam;
 - (c) a drive assembly magnetically coupled to said tuning element; and
 - (d) a hermetically sealed container, said gain medium and said tuning element located within said hermetically sealed container, said drive assembly located outside said hermetically sealed container.
17. The apparatus of claim 16, further comprising:
 - (a) a first magnetic element coupled to said tuning element and located within said hermetically sealed container; and
 - (b) a second magnetic element associated with said drive assembly and located outside said hermetically sealed container, said first magnetic element magnetically coupled to said second magnetic element through said hermetically sealed container.
18. The apparatus of claim 16, further comprising a reflector located within said hermetically sealed container and positioned in said beam after said tuning element.
19. The apparatus of claim 18, further comprising a grid generator located within said hermetically sealed container and positioned in said beam.
20. The apparatus of claim 16, further comprising an activated carbon drain positioned within said hermetically sealed container.
21. The apparatus of claim 16, further comprising a moisture trap positioned within said hermetically sealed container.
22. The apparatus of claim 16, wherein hermetically sealed container includes an inert atmosphere therewithin.

23. A method for operating a laser, comprising:
 - (a) positioning a tuning element in a light beam;
 - (b) magnetically coupling a drive element to said tuning element; and
 - (c) actuating said tuning element via magnetic coupling between said tuning element and said drive element.
24. The method of claim 23, wherein said magnetically coupling comprises:
 - (a) coupling a first magnetic element to said tuning element;
 - (b) coupling a second magnetic element to said drive element; and
 - (c) positioning said first and second magnetic elements such that actuation of said second magnetic element by said drive element results in actuation of said first magnetic element and said tuning element.
25. The method of claim 23, further comprising:
 - (a) enclosing said tuning element in a hermetically sealed container; and
 - (b) positioning said drive element outside said hermetically sealed container.
26. The method of claim 25, wherein said magnetically coupling is carried out through a wall of said hermetically sealed container.
27. The method of claim 23, further comprising providing a gain medium, said gain medium emitting said light beam.
28. The method of claim 27, further comprising positioning a reflector positioned in said light beam after said tuning element.
29. The method of claim 27, further comprising positioning a grid generator in said light beam.
30. The method of claim 28, further comprising:
 - (a) enclosing said tuning element, said gain medium and said reflector in a hermetically sealed container;

- (b) positioning said drive element outside said hermetically sealed container.

31. A method for operating a laser, comprising:

- (a) positioning a tuning element in a light beam;
- (b) coupling a first magnetic element to said tuning element;
- (c) coupling a second magnetic element to a drive element; and
- (d) positioning said first and second magnetic elements such that said tuning element and said drive element are magnetically coupled to each other.

32. The method of claim 28, further comprising actuating said tuning element via interaction of said magnetically coupled first and second magnetic elements.

33. The method of claim 31, further comprising:

- (a) positioning said tuning element and said first magnetic element within a hermetically sealed enclosure; and
- (b) positioning said drive element and said second magnetic element outside said hermetically sealed enclosure.

34. The method of claim 33, further comprising:

- (a) providing a gain medium, said gain medium emitting said light beam;
- (b) positioning a reflector positioned in said light beam after said tuning element; and
- (c) positioning said gain medium and said reflector within said hermetically sealed enclosure.

35. An optical apparatus, comprising:

- (a) means for generating a light beam; and
- (b) means for magnetically actuating a tuning element positioned in said light beam.

36. The apparatus of claim 35, further comprising means for hermetically enclosing said light beam generating means and said tuning element.